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Byung Hyun An

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2629

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/769,815	<b>Applicant(s)</b> AN, BYUNG HYUN	
	<b>Examiner</b> JEFF PIZIALI	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/15/09, 9/22/08, 5/15/08, 1/28/08.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20-27 is/are pending in the application.
- 4a) Of the above claim(s) 3, 9, 15-17 and 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 10-14, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Election/Restrictions***

2. Applicant's election with traverse of *Species I-B-3-a (claims 1, 2, 4-8, 10-14, 26, and 27)* in the reply filed on *15 December 2009* is acknowledged. The traversal is on the ground(s) that "*examination of all claims would not place a serious burden on the examiner*" (see page 10 of the *15 December 2009* Election). This is not found persuasive.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics.

The Applicant does dispute that the species exhibit mutually exclusive characteristics.

The Applicant also does not dispute that the species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

The requirement is still deemed proper and is therefore made FINAL.

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3. ***Claims 3, 9, and 15-17 are withdrawn*** from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on *15 December 2009*.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. ***Claims 1, 4-8, 10-14, 26, and 27*** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 1 newly recites, "***a memory having plural storage sections***" (*line 4*).

Claim 26 newly recites, "***a memory including plural storage sections***" (*line 4*).

Claim 27 newly recites, "***a memory including plural storage sections***" (*line 3*).

However, the original disclosure merely teaches, "*saving in a memory a storage section of an image signal*" (*page 4, paragraph 13*).

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The subject matter of "*a memory having/including plural storage sections*" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

6. The remaining claims are rejected under 35 U.S.C. 112, first paragraph, as being dependent upon rejected base claims.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. *Claims 1, 2, 4-8, 11-14, 26, and 27* are rejected under 35 U.S.C. 103(a) as being unpatentable over *Jung (KR-10-0258529-B1)* in view of *Hong (US 5,063,440 A)*.

Please note: An English translation of *Jung (KR-10-0258529-B1)* has been included with this Office action, and is referred to in the following rejections.

Regarding claim 1, *Jung* discloses an apparatus [*e.g., Fig. 1*] for processing displayed data in a system having

a computer [*e.g., Fig. 1: 10*] for processing data and

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a display device [e.g., Fig. 1: 20] with an amplifier [e.g., Fig. 1: 25] for amplifying input signals [e.g., Fig. 1: RGB] from the computer, the apparatus comprising:

a memory [e.g., Fig. 1: 23] having plural storage sections (e.g., see page 4, paragraph 5: wherein multiple frames may be stored in the memory);

a Micom [e.g., Fig. 1: 22] configured to control the display device, and

to output a selection signal [e.g., Fig. 1: Control 1] and

a vertical synchronizing signal [e.g., Fig. 1: V\_Out]; and

a comparator [e.g., Fig. 1: wherein the logic levels of "Control 1" and "V\_Out" must inherently be compared in order to make the decision to store an image frame in the memory]

configured to compare the selection signal with the vertical synchronizing signal, and

to output a storage related signal [e.g., Fig. 1: the logic level of "Control 1" set to enable storing of the video signal RGB, and the logic level of "V\_Out" simultaneously set to designate the start of a new video frame to store] to the micom, and wherein

the micom is configured to use the storage related signal to determine a storage section in the memory for storing an image signal corresponding to the selection signal (see the entire document, including pages 3-5).

Should it be shown that **Jung** teaches the claimed "comparator" subject matter with insufficient specificity:

**Hong** discloses an input video image terminal [e.g., Fig. 1: V<sub>i</sub>] providing an analog image signal to an A/D converter [e.g., Fig. 1: 1], so as to convert the analog image signal into a

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digital image signal and to transmit the digital image signal to a memory [e.g., *Fig. 1: 31*], wherein

a comparator [e.g., *Fig. 1: G<sub>5</sub>*] is configured to compare a selection signal [e.g., *Fig. 1: Q2*] with a vertical synchronizing signal [e.g., *Fig. 1: VS*], and

to output a storage related signal [e.g., *Fig. 1: via G<sub>7</sub>*] to the memory's write enable terminal [e.g., *Fig. 1: WE*], and wherein

the memory is configured to use the storage related signal to determine a storage section in the memory for storing an image signal [e.g., *an image frame*] corresponding to the selection signal (*see the entire document, including Column 2, Line 9 - Column 3, Line 47*).

**Jung** and **Hong** are analogous art, because they are from the shared inventive field of using vertical synchronization pulses to selectively control the timing of storing video image frames in memory units.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to combine **Hong's** comparator [e.g., **Hong: Fig. 1: G<sub>5</sub>**] to compare **Jung's** selection signal [e.g., **Jung: Fig. 1: Control 1**] and vertical synchronizing signal [e.g., **Jung: Fig. 1: V\_Out**], so as to make use of a simple, well known and commonly understood circuit structure that provides accurate timing control for storing image frames in a memory.

Moreover, it would have been obvious to one of ordinary skill in the art at the time of invention because all the claimed elements were known in the prior art and one skilled in the art could have combined a *signal comparator* as claimed by known methods with no change in their

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respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 2, this claim is rejected by the reasoning applied in rejecting claim 1; furthermore, **Jung** discloses an apparatus [*e.g.*, *Fig. 1*] for processing displayed data in a system having

a computer [*e.g.*, *Fig. 1: 10*] for processing data and

a display [*e.g.*, *Fig. 1: 20*] with an amplifier [*e.g.*, *Fig. 1: 25*] for amplifying input signals from the computer, the apparatus comprising:

a Micom [*e.g.*, *Fig. 1: 22*] configured to control the display,

to output a selection signal [*e.g.*, *Fig. 1: Control 1*] and

to generate a vertical synchronizing signal [*e.g.*, *Fig. 1: V\_Out*], and

to output a storage related signal [*e.g.*, *Fig. 1: the logic level of "Control 1" set to enable storing of the video signal RGB, and the logic level of "V\_Out" simultaneously set to designate the start of a new video frame to store*] corresponding to a comparison of the selection signal and the vertical synchronizing signal [*e.g.*, *Fig. 1: wherein the logic levels of "Control 1" and "V\_Out" must inherently be compared in order to make the decision to store an image frame in the memory*]; and

a memory [*e.g.*, *Fig. 1: 23*] configured to save an image signal corresponding to the selection signal in accordance with the storage related signal (*see the entire document, including pages 3-5*).



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Regarding claim 4, **Jung** discloses the selection signal is automatically generated by the Micom when a malfunction of the computer is detected (*see the entire document, including the abstract*).

Regarding claim 5, **Jung** discloses a preamplifier [*e.g.*, *Fig. 1: 24*], but does not appear to expressly disclose an A/D converter.

However, **Hong** discloses an A/D converter [*e.g.*, *Fig. 1: 1*], configured to convert an analog image signal [*e.g.*, *Fig. 1:  $V_i$* ] to a digital image signal, and to transmit the digital image signal to the memory (*see the entire document, including Column 2, Line 9 - Column 3, Line 47*).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to combine **Hong's** A/D converter [*e.g.*, **Hong: Fig. 1: 1**] to digitize **Jung's** pre-amplified image signal [*e.g.*, **Jung: Fig. 1: RGB**] prior to storage in the memory [*e.g.*, **Jung: Fig. 1: 23**], so as to make use of a simple, well known and commonly understood image signal conversion technique.

Moreover, it would have been obvious to one of ordinary skill in the art at the time of invention because all the claimed elements were known in the prior art and one skilled in the art could have combined an *A/D converter* as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

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Regarding claim 6, **Hong** discloses the image signal saved in the memory is a digital image signal outputted from an A/D converter [e.g., Fig. 1: 1] (*see the entire document, including Column 2, Line 9 - Column 3, Line 47*).

Regarding claim 7, **Jung** discloses the Micom is arranged to display the image signal saved in the memory to the display device if a restoration command signal [e.g., Fig. 1: 21] is input to the Micom (*see the entire document, including pages 3-5*).

Regarding claim 8, **Hong** discloses the comparator is arranged to compare the selection signal with the vertical synchronizing signal, and

if logic levels of both signals are same, output the storage related signal (*see the entire document, including Column 2, Line 9 - Column 3, Line 47*).

Regarding claim 11, **Hong** discloses the comparator is arranged to output the storage related signal when the selection and vertical synchronizing signals outputted from the Micom are both high or low (*see the entire document, including Column 2, Line 9 - Column 3, Line 47*).

Regarding claim 12, **Hong** discloses saving the image signal in the memory in response to a first command signal outputted from the comparator, and end storage of the image signal in response to a second command signal outputted from the comparator (*see the entire document, including Figs. 2C, 2E, 2F; Column 4, Lines 15-41*).

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Regarding claim 13, **Hong** discloses saving the image signal in the memory by outputting a storage start signal with respect to the image signal when the first command signal is input from the comparator, and

ending storage of the image signal by outputting a storage end signal when the second command signal is input from the comparator (*see the entire document, including Figs. 2C, 2E, 2F; Column 4, Lines 15-41*).

Regarding claim 14, **Jung** discloses a storage section corresponds to a period of the vertical synchronizing signal, and

is a section of an image signal corresponding to one frame displayed on a full monitor screen (*see the entire document, including see page 4, paragraph 5*).

Regarding claim 26, this claim is rejected by the reasoning applied in rejecting claims 1 and 2; furthermore, **Jung** discloses an apparatus [*e.g., Fig. 1*] for processing displayed data in a system having

a computer [*e.g., Fig. 1: 10*] for processing data and

a display device [*e.g., Fig. 1: 20*] with an amplifier [*e.g., Fig. 1: 25*] for amplifying input signals from the computer, the apparatus comprising:

a memory [*e.g., Fig. 1: 23*] including plural storage sections (*e.g., see page 4, paragraph 5: wherein multiple frames may be stored in the memory*);

a Micom [*e.g., Fig. 1: 22*] configured to control the display device, and

to output a selection signal [*e.g., Fig. 1: Control 1*] and

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a vertical synchronizing signal [e.g., *Fig. 1: V\_Out*]; and

a comparator [e.g., *Fig. 1: wherein the logic levels of "Control 1" and "V\_Out" must inherently be compared in order to make the decision to store an image frame in the memory*]

configured to compare the selection signal with the vertical synchronizing signal and,

if logic levels of the selection signal and the vertical synchronizing signal are equal [e.g., *Fig. 1: the logic level of "Control 1" enabling storing of the video signal RGB, and the logic level of "V\_Out" simultaneously signifying the start of a new video frame to store*],

output a first command signal identifying a storage section in the memory, and wherein

the Micom is arranged to save an image signal corresponding the selection signal in the storage section in response to the first command signal, and

to end storage of the image signal in response to a second command signal outputted from the comparator (*see the entire document, including pages 3-5*).

Moreover, **Hong** discloses a comparator [e.g., *Fig. 1: G<sub>5</sub>*] configured to compare a selection signal [e.g., *Fig. 1: Q<sub>2</sub>*] with a vertical synchronizing signal [e.g., *Fig. 1: VS*] and,

if logic levels of the selection signal and the vertical synchronizing signal are equal,

output a first command signal [e.g., *Fig. 1: via G<sub>7</sub>*] identifying a storage section in the memory [e.g., *Fig. 1: 3I*], and wherein

the memory is configured to save an image signal [e.g., *Fig. 1: digitized V<sub>i</sub>*]

corresponding the selection signal in the storage section in response to the first command signal,

and

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to end storage of the image signal in response to a second command signal outputted from the comparator (*see the entire document, including Figs. 2C, 2E, 2F; Column 4, Lines 15-41*).

Regarding claim 27, this claim is rejected by the reasoning applied in rejecting claims 1, 2, and 26; furthermore, **Jung** discloses an apparatus [*e.g., Fig. 1*] for displaying an image signal produced by a device [*e.g., Fig. 1: 10*], the apparatus comprising:

a memory [*e.g., Fig. 1: 23*] including plural storage sections (*e.g., see page 4, paragraph 5: wherein multiple frames may be stored in the memory*);

a micom [*e.g., Fig. 1: 22*] configured to control the apparatus, and

to output a vertical synchronizing signal [*e.g., Fig. 1:  $V\_Sync = V\_Out$* ] inputted from the device and

a selection signal [*e.g., Fig. 1: Control 1*] generated from the apparatus; and

a comparator [*e.g., Fig. 1: wherein the logic levels of "Control 1" and "V\_Out" must inherently be compared in order to make the decision to store an image frame in the memory*]

configured to compare the selection signal with the vertical synchronizing signal and

output a storage related signal [*e.g., Fig. 1: the logic level of "Control 1" enabling storing of the video signal RGB, and the logic level of "V\_Out" simultaneously signifying the start of a new video frame to store*] to the micom identifying a storage section for storing an image signal corresponding to the selection signal (*see the entire document, including pages 3-5*).

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9. *Claim 10* is rejected under 35 U.S.C. 103(a) as being unpatentable over **Jung (KR-10-0258529-B1)** and **Hong (US 5,063,440 A)** as applied to *claim 8* above, and further in view of **Enomoto (US 4,031,430 A)**.

Regarding claim 10, neither **Jung** nor **Hong** appear to expressly disclose substituting a vertical fly back pulse signal in the place of the vertical synchronizing signal.

However, **Enomoto** discloses substituting a vertical fly back pulse signal [*e.g.*, *Fig. 6: 63*] in the place of the vertical synchronizing signal (*see the entire document, including Column 5, Lines 39-43*).

**Jung**, **Hong**, and **Enomoto** are analogous art, because they are from the shared inventive field of using vertical synchronization pulses to selectively control the timing of displays.

Moreover, both **Jung** and **Enomoto** are analogous art, because they are directed to display devices making use of vertical deflection circuits.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use **Hong's** comparator [*e.g.*, **Hong: Fig. 1: G<sub>5</sub>**] to compare **Jung's** selection signal [*e.g.*, **Jung: Fig. 1: Control 1**] and **Enomoto's** vertical fly back pulse signal [*e.g.*, *Fig. 6: 63*] (*substituted in the place of Jung's vertical synchronizing signal [e.g., Jung: Fig. 1: V\_Out]*), so as to make use of a simple, well known and commonly understood circuit structure that provides accurate timing control for storing image frames in a memory, and further so as to provide a simple, well known and commonly understood vertical sync / flyback pulse substitution.

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It would have been obvious to one of ordinary skill in the art at the time of invention, because the substitution of one known *vertical timing signal (v-flyback)* for another *vertical timing signal (v-sync)* would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

### ***Response to Arguments***

10. Applicant's arguments filed on 28 *January 2008* have been fully considered but they are not persuasive.

Applicant's arguments with respect to *claims 1, 2, 4-8, 10-14, 26, and 27* have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

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***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/  
Primary Examiner, Art Unit 2629  
22 February 2010